## Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1.-3. **(canceled)**

4. **(currently amended)** A method for treating or preventing a reproductive disease, disorder, or condition related to egg production or egg laying in a bird comprising administering to the bird an immunogenic composition comprising a polypeptide comprising a zona pellucida protein or an immunogenic fragment thereof.

5. **(canceled)**

6. **(currently amended)** The method of claim 4 wherein the reproductive disease, disorder or condition is selected from the group consisting of egg-binding disease, dystocia, egg-related peritonitis, oophoritis, prolapsed oviduct and cloaca, salpingitis, metritis, oviduct impaction, cloacal problems, ~~cystic hyperplasia~~, ectopic egg formation, chronic egg laying and undesirable behavior as a result of reproductive activity or reproductive problems.

7.-11. **(canceled)**

12. **(previously presented)** The method of claim 4 wherein the zona pellucida protein is a glycoprotein.

13. **(previously presented)** The method of claim 4 wherein the zona pellucida protein is a naturally occurring protein.

14. **(previously presented)** The method of claim 4 wherein the zona pellucida protein is a recombinant protein or synthetic protein.

15. **(previously presented)** The method of claim 4 wherein the zona pellucida protein comprises at least one zona pellucida protein selected from the group consisting of a porcine zona pellucida protein and an avian zona pellucida protein.

16. **(previously presented)** The method of claim 4 wherein the polypeptide further comprises a T cell epitope, a helper T cell epitope or a B cell epitope.

17. **(previously presented)** The method of claim 4 wherein the immunogenic composition further comprises an adjuvant.

18. **(original)** The method of claim 17 wherein the adjuvant is selected from the group consisting of Freund's Complete Adjuvant, Freund's Incomplete Adjuvant, Freund's mycotoxin-free adjuvant, aluminum hydroxide, a cell wall extract derived from non-pathogenic *Mycobacteria* spp., a long-chain polydispersed β(1,4) linked mannan polymer interspersed with O-acetylated groups, permulum and synthetic trehalose dicorynomycolate (STDCM).

19. **(original)** The method of claim 18 wherein the adjuvant is selected from the group consisting of aluminum hydroxide and STDCM.

20. **(previously presented)** The method of claim 18 wherein the adjuvant is aluminum hydroxide.

21. **(previously presented)** The method of claim 4 wherein the immunogenic composition excludes an adjuvant.

22. **(canceled)**

23. **(previously presented)** The method of claim 4 wherein the immunogenic composition comprises a zona pellucida protein or immunogenic fragment thereof.

24.-26. **(canceled)**

27. **(previously presented)** The method of claim 4 wherein the immunogenic composition comprises an immunogenic conjugate comprising a zona pellucida protein or a fragment thereof, conjugated to a carrier molecule.

28. **(previously presented)** The method of claim 27 wherein the immunogenic conjugate is dually functional.

29. **(previously presented)** A method for affecting the reproductive system of a bird comprising administering to the bird an immunogenic composition comprising an immunogenic conjugate comprising a zona pellucida protein or fragment thereof conjugated to a carrier molecule.

30.-40. **(canceled)**